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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------|-------------|----------------------|---------------------|------------------|
| 10/042,976 | 01/09/2002 | Bolesh J. Skutnik | BJA203A | 6667 |
| 7590 12/05/2003 | | | EXAMINER | |
| BOLESH J. SKUTNIK PhD, JD | | | LEE, JOHN D | |
| 515 Shaker Road | | | | |
| East Longmeadow, MA 01028 | | | ART UNIT | PAPER NUMBER |
| | | | 2874 | |

DATE MAILED: 12/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------|--------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/042,976 | SKUTNIK, BOLESH J. | |
| | Examiner John D. Lee | Art Unit 2874 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 October 2003.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-13 and 21 is/are pending in the application.
- 4a) Of the above claim(s) is/are withdrawn from consideration.
- 5) Claim(s) is/are allowed.
- 6) Claim(s) 1,3,4,11-13 is/are rejected.
- 7) Claim(s) 2,5-10,21 is/are objected to.
- 8) Claim(s) are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 October 2003 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. .
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) .
- 4) Interview Summary (PTO-413) Paper No(s) .
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other:

Applicant's communication filed on October 28, 2003, has been carefully studied by the Examiner. The arguments advanced therein, considered together with the amendments made to the claims, are persuasive and the rejections set forth in the previous Office action are withdrawn. The previously applied 35 U.S.C. § 112, first paragraph, rejection has also been reconsidered and is likewise withdrawn. In view of further search, however, and the consequent discovery of relevant prior art documents, a new rejection is set forth below. This action is **not** made final.

The two (2) sheets of formal drawing filed on October 28, 2003, are acceptable.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, and 11-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,154,595 to Yokogawa et al in view of U.S. Patent 6,469,390 to Chang et al. Yokogawa et al discloses an optical fiber device which emits diffused, scattered light at points along its length. The device can thus be called a "diffuser". The Yokogawa et al optical fiber comprises a light transmitting core and a silica aerogel cladding. As is taught in Chang et al, silica aerogel is also known as "nanoporous silica". The Yokogawa et al optical fiber thus comprises a light transmitting core and a nanoporous silica cladding. As can be seen in the various figures, sections of the nanoporous silica cladding provide scattering sites for emitting light out of the fiber. In some of the embodiments (Figures 5A, 5B, for example) the Yokogawa et al cladding is modified with a reflecting area to help redirect light to the appropriate scattering

sites. This is obviously the same as treating portions of the cladding with a "light scattering compound", since the reflective film could be a spuriously reflecting film of, for example, aluminum oxide. Such a reflective film could also be termed a "mirror" and could be placed at any point along the length of the fiber, including a distal end thereof. The Yokogawa et al reflective film could obviously be deposited by a vapor deposition process. In conclusion, the optical fiber light emitting device of Yokogawa et al, when interpreted by the teaching of Chang et al, would obviously be recognized by the person of ordinary skill in the art as the same device set forth in the above-identified claims.

Claims 2, 5-10, and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Yokogawa et al, the closest prior art of record, does not disclose or reasonably suggest at least partially consolidating a section of the nanoporous silica cladding at a distal end of the optical fiber by heat energy.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The two (2) cited Japanese Patent documents disclose optical fiber light emitting devices essentially the same as the device of Yokogawa et al, discussed in the rejection above. The cited U.S. Patents to Bohr and Smith et al provide additional teachings of the equivalency of silica aerogel and nanoporous silica. The cited U.S. Patent to Sprehn et al shows another optical fiber comprising a light transmitting core and a silica aerogel cladding.

Applicant's arguments with respect to claims 1-13 and 21 have been considered, but are moot in view of the new grounds of rejection.

Any inquiry concerning the merits of this communication should be directed to Examiner John D. Lee at telephone number (703) 308-4886. The Examiner's normal work schedule is Tuesday through Friday, 6:30 AM to 5:00 PM. Any inquiry of a general or clerical nature (i.e. a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at telephone number (703) 308-0956, to the technical support staff supervisor (Team 2) at telephone number (703) 308-3072, or to the Technology Center 2800 Customer Service Office at telephone number (703) 306-3329.



John D. Lee
John D. Lee
Primary Patent Examiner
Group Art Unit 2874